

**Review Comments**  
**Stormwater Assessment for Source Control Evaluation**  
**ODOT Facility in Portland Harbor**  
**ECSI #5437**  
**September 22, 2015**

**Submitted November 6, 2015**

Following are the United States Environmental Protection Agency's (EPA) comments on the September 22, 2015 document entitled, Stormwater Assessment for Source Control Evaluation, ODOT Facility in Portland Harbor (Stormwater Assessment Report), prepared for Oregon Department of Transportation (ODOT) by Herrera Environmental Consultants, Inc.

Five main thoroughfares and two bridges owned by ODOT drain to the Portland Harbor Remedial Investigation (RI) Study Area (collectively, the ODOT facility; individually, ODOT facility elements). The ODOT facility elements include Highway 30, Interstate 405 (I-405), Interstate 5 (I-5), Highway 26, NE Portland Highway (also known as Highway 30 Bypass), the St. Johns Bridge (on NE Portland Highway), and the Fremont Bridge (on I-405).

EPA understands the purpose of this report is to summarize ODOT's approach to stormwater data collection, characterization, and stormwater management in the ODOT facility, and to present the stormwater assessment of the ODOT facility in the RI Study Area. A separate report presents a Source Control Implementation Plan and schedule based on the results of the stormwater assessment. The Oregon Department of Environmental Quality (DEQ) provided comments to ODOT on the March 17, 2015 Stormwater Assessment for Source Control Evaluation report, and EPA's review of these documents considered DEQ's comments. EPA did not review the March 17, 2015 document.

**General Comments**

1. The table below summarizes the information presented in the Stormwater Assessment Report and EPA's recommendations for the ODOT facility. Based on current information, EPA recommends that comments provided below be incorporated into the Final Source Control Measure Implementation Plan. The stormwater assessment methods present uncertainties regarding potential Willamette River recontamination from ODOT facilities. Future stormwater sampling efforts should be consistent with Joint Source Control Strategy (JSCS) sampling guidance and storm event criteria to collect data that is representative of stormwater discharges from each individual outfall within the ODOT facility to the Willamette River.
2. The final Source Control Measure Implementation Plan and schedule for implementation should include sufficient detail to inform whether the subsequent source control evaluation will adequately characterize SCMs implemented by ODOT within the Portland Harbor site.

### EPA Site Status Summary – ODOT Facility

Question	Answer	Description
Are source control measures being implemented?	Yes	Stormwater treatment facilities in select locations, spill prevention and cleanup, bridge cleaning and maintenance, road sweeping/flushing, ditch shaping and cleaning, culvert and inlet cleaning, and guardrail cleaning.
Are there JSCS SLV exceedances?	Yes	<b>Solids:</b> metals, PCBs, phthalates, phenol, tributyltin, and PAHs. Magnitudes of exceedances are not presented.  <b>Stormwater:</b> metals, TBT, PCB Aroclors, PAHs, BEHP, pesticides (DDTs, Aldrin, Alpha-BHC, Delta-BHC, Dieldrin, Endrin, SVOCs. High level exceedances (> 10x SLV): Arsenic, Aluminum, Zinc, Dieldrin, and PCBs.
Are there stormwater PRG exceedances?	Yes*	RAO 3: Arsenic, DDT, hexachlorobenzene, pentachlorophenol, PCBs, and PAHs (all). RAO 7: Copper, zinc, PCBs, and PAHs (Benzo(a)anthracene, Benzo(a)pyrene).
Are pollutant concentrations typical of Portland Harbor industrial sites (e.g. below the knee of the curve)?	NA	No comparisons to rank-order curves presented.
Are stormwater COCs from this site the same as those defined for the associated SDU/SMA?	Yes	Metals, PCBs, PAHs, BEHP
Do sampled stormwater events meet JSCS criteria?	No	Refer to Specific Comment #5 below.
Is further stormwater data collection recommended?	Yes	Collect additional stormwater samples according to the final Source Control Measures Implementation Plan. Refer to Specific Comments 5-8 below.
Are additional source control measures recommended?	Yes	Implement additional SCMs described in the final Source Control Measures Implementation Plan as necessary. Refer to Specific Comments 5-8 below.

\*Based on median values presented in Table C-2.

### Specific Comments – Stormwater Assessment Report

1. Section 4.2.4.4 Bridge Cleaning and Maintenance, Page 4-6: The last paragraph states that all blast media, paint chips, particulate waste, and construction waste associated with St. Johns Bridge maintenance and rehabilitation were captured, stored in approved containers, and disposed of accordingly. However, the stormwater data for OF-52A (Table C-1) and storm drain solids data for the St. Johns W (Linnton) sediment trap (Table C-3, p. 7 of 7) show very high concentrations of PCBs. The PCB congeners in the St. Johns W (Linnton) sediment trap sample exceeds the SLV by a factor of 1,000 (e.g., SLV = 0.4 ug/kg vs. sediment trap sample = 438.3 ug/kg). Bridge paint has been documented as a source of PCBs, and this sample result indicates that the “Bridge Cleaning and Maintenance” SCM may be insufficient and need improvement.
2. Section 4.2.4.5 Sweeping/Flushing, Page 4-6: During bridge scupper cleaning, the text states that scuppers are “unplugged” with a rod. The material removed from the scuppers should be collected and properly disposed of to prevent discharge of contaminants to the Willamette River. In addition, the procedure for flushing is not provided. This activity could result in non-stormwater discharges and should be eliminated whenever possible. More frequent street sweeping throughout the wet season may be effective.
3. Section 5.6 Bridge Coatings, Page 5-5: The last paragraph states that PCBs found in bridge coatings do not present a risk of recontamination to the river. This conclusion is based on findings presented in the Evaluation of the Effect of Bridge Coatings on Sediment Quality (The Intelligence Group, 2013). However, the analysis methods presented in The Intelligence Group report are not consistent with JSCS guidance being applied by DEQ and EPA to determine risk of recontamination within the Portland Harbor Superfund site. While the currently used bridge coatings may be acceptable, additional SCMs may be required to remove pollutants such as PCBs and metals from stormwater runoff.
4. Section 6 Stormwater Assessment, Page, 6-1: EPA agrees with DEQ’s comments on the stormwater assessment approach. The approach presented in the Stormwater Assessment Report is difficult to understand and does not follow standard JSCS guidance. Combining samples from multiple locations and subsequently calculating a median value does not provide adequate consideration of high or extreme concentrations. Therefore, this method does not characterize potential stormwater runoff impacts from the ODOT facility.

Future stormwater evaluations should follow standard JSCS guidance so that sampling is representative of ODOT’s discharges to the Willamette River and results are comparable to other Portland Harbor facilities. This includes comparing single data points from individual outfalls to the applicable Screening Level Values (SLVs) and Preliminary Remediation Goals (PRGs) as well as evaluating other lines of evidence such as comparison to DEQ’s rank-order curves. Analyzing the data in this manner will inform where additional SCMs are required and where existing SCMs are effectively reducing pollutants in stormwater runoff.

### **Specific Comments – Source Control Measure Implementation Plan**

5. Introduction: The final Source Control Implementation Plan should contain details on monitoring locations, sampling frequency, and sampling methods including the number and type of sample (i.e., grab or composite) to be collected from each location. It should also describe the subsequent source control evaluation and discuss how results will be presented. Monitoring, data collection, and reporting should be consistent with JSCS guidance to ensure sampling is representative of ODOT's discharges to the Willamette River, validate results, and improve comparability with other Portland Harbor industrial facilities. This information will be important to determine whether the subsequent source control evaluation will be sufficient for determining SCM effectiveness and potential risk of Willamette River recontamination from ODOT facilities.
6. Portland-Harbor-wide Source Control Measures, Page 1: The modifications to existing source control measures described in Specific Comments 1 and 2 above should be considered where applicable.
7. St. Johns GeoRegion, Page 6:
  - a. The Portland-Harbor-wide SCMs should also be implemented in this GeoRegion, as applicable, to further reduce risk of Willamette River recontamination.
  - b. Page 7. 1<sup>st</sup> paragraph. The text states that data shown in Table 5-10 demonstrates effectiveness of the CDS Stormwater Treatment facility in reducing contaminant concentrations, but no table is provided. High concentration of PCBs were found in stormwater and solids downstream of the treatment facility indicating that it is not effective at removing all pollutants of concern. It is unlikely that increasing the CDS unit maintenance frequency will sufficiently improve pollutant removals.
  - c. Monitoring at OF-50 should be considered to determine treatment effectiveness of the improvements upstream of these outfalls (swales, stormwater treatment pond, and sedimentation manhole). Samples could be collected upstream and downstream of each treatment BMP to determine their effectiveness in removing pollutants of concern. The results of such an evaluation could be useful when deciding what additional SCMs (if any) would be most beneficial in other ODOT locations.
8. Schedule: The targeted deadlines provided in the schedule need to be updated and described in detail.